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UNITED STATES DEPARTMENT OF AGRICULTURE  
Rural Electrification Administration  
Technical Standards Committees  
(Electric)

Supplement No. 2, January 1980, to  
REA Bulletin 43-5  
LIST OF MATERIALS ACCEPTABLE FOR USE ON  
SYSTEMS OF REA ELECTRIFICATION BORROWERS

The attached pages for the "List of Materials Acceptable for Use on Systems of REA Electrification Borrowers" are those which have been revised by action of the Technical Standards Committees during the months of October through December 1979. The following changes should be made in order to keep it up to date. Pages with a colon between are on the same sheet, both being changed.

<u>Add</u> <u>New Page</u>	<u>Remove</u> <u>1979 Page</u>	<u>Add</u> <u>New Page</u>	<u>Remove</u> <u>1979 Page</u>
b	b	cy-1.1	-
k(2):k(3)	k(2):k(3)	du	du
l-2	l-2	fc	fc
v	v	fn	fn
ae-1	ae-1	sb-1	sb-1
ae-2:ae(Cond.)	ae-2:ae(Cond.)	sb-3	sb-3
aj	aj	sd	sd
an-3.1	an-3.1	U ae	U ae
at-1	at-1	U ax	U ax
ax-1	ax-1	U gn(3):U gn(4)	U gn(3):U gn(4)
ax-2	ax-2	U gp	U gp
az	az	U hb(1)	U hb(1)
bi	bi	U hb(2.1)	U hb(2.1)
by	by	U hq(1)	U hq(1)
cg-1	cg-1	U hw	U hw
cp	cp	U hx	U hx
cy-1	cy-1		

MAILED  
3 '80  
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U.S. DEPT. OF AGRICULTURE  
RURAL ELECTRIFICATION ADMINISTRATION  
CURRENT SERIAL RECORDS



b - Pin, pole top, steel

DISTRIBUTION

	<u>7.2/12.5 or 7.62/13.2 kV</u>	<u>14.4/24.9 kV</u>
Pin length, inches :	20	20
Thread diameter, inches:	1	1-3/8
Hole spacing, inches :	8	8
REA Specifications :	D-3	DT-3
Chance	2199	2195
Dixie	D-2172	D2195
Joslyn		J720
Kortick		K8086
McGraw-Edison	DP19P6	DP19P5
Utilities Service	36606F-REA	36652

Pins listed below have  $4\frac{1}{2}$ " offset  
which eliminates the use of Item cs

McGraw-Edison	DP28P1
Utilities Service	36549

TRANSMISSION

Type :	1-1/8" solid steel	Channel
Pin length, inches :	24	24
Thread diameter, inches:	1-3/8	1-3/8
Hole spacing, inches :	8	8
REA Specifications :	None	DT-3
Chance		2196
Dixie	D2125	
Joslyn		J824
Kortick		K8087
McGraw-Edison		DP19P8
Utilities Service		36653F

NOTE 1. Pole top bracket (Item eb) and post insulator (Item ea) may be substituted for pole top pin (Item f) and pin insulator (Item a) for both small and large conductor distribution drawings shown in REA Forms 803 and 804 at the option of the owner.

2. Flared type pins may be mounted with either side against the pole.

<sup>c</sup>  
July 1979

c - Bolt, machine

Applicable Specifications: Edison Electric Institute  
Specification TDJ-1 1969,  
"Specifications for Steel  
Bolts and Nuts"

Applicable Sizes : 1/2 inch diameter, 6 through  
10 inch length  
  
5/8 inch diameter, 6 through  
24 inch length  
  
3/4 inch diameter, 6 through  
26 inch length  
  
7/8 inch diameter, 6 through  
28 inch length

The following manufacturers have shown compliance with the applicable  
specifications for machine bolts:

A. B. Chance Company  
Dixie Electrical Manufacturing Company

Hughes Brothers  
\*Joslyn Manufacturing and Supply Company  
Kortick Manufacturing Company  
\*McGraw-Edison

Utilities Service Company



\*"Static proof" design available.

k - Insulator, Suspension

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>Sediver</u>		
10" suspension insulator	997(7/27/72)	To obtain experience.
CT-6R2 (clevis, 15,000 lbs.)	1068(6/26/75)	
N-6R2 (ball & socket, 15,000 lbs.)		
CT-12R (clevis, 25,000 lbs.)	997(7/27/72)	
N-12R2 (ball & socket, 25,000 lbs.)	1175(11/2/79)	



Conditional List  
k(3)  
January 1980

k - Insulator, Distribution Deadend

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>Chance</u>		
Distribution deadend	965	For the purpose of gaining
Catalog No. C654-0000	4/22/71	operating experience as
"Epoxilator II"		follows:
(15 kV line-to-line)		1. For distribution lines
Catalog No. C654-2500	1082	only.
"Epoxilator II"	1/22/76	
(25 kV line-to-line)	1129	2. To be used only in a
	12/15/77	horizontal position on
		deadends. Not to be
		used as vertical sus-
		pension insulators.
		3. Recommended maximum
		working load is
		5,000 lbs.
		4. Not recommended for
		use in areas subject
		to contamination.
<u>Joslyn</u>		
Distribution deadend	1074	For the purpose of gaining
UDI 671-3002	9/25/75	operating experience as
	1088	follows:
	4/15/76	1. For distribution lines
		only, up to 15 kV line-
		to-line voltage.
Distribution deadend	1074	For the purpose of gaining
UDI 671-3010	9/25/75	operating experience as
	1088	follows:
	4/15/76	1. For distribution lines
		only, up to 25 kV line-
		to-line voltage.
<u>Plastigage</u>		
Distribution deadend	1158	To obtain experience.
HTA-S1-15 kV	3/1/79	
HTA-S1-25 kV		



1-1  
July 1979

1 - Clamp, deadend

		DISTRIBUTION			
Copper 2 through 6		ACSR			
CWC 4A through 8A		4/0 & 3/0	2/0	1/0	2 & 4
-	ALCOA	302**	302**	302**	302**
MD-52-N	Anderson/Sq. D	PG57N**	PG57**	PG-46N**	PG-46N**
-	Bethea/National	DA-20N**	DA-15-N**	DA-15-N**	DA-15-N**
2111	Joslyn	5011	2116	2116	2107*
	(Brewer-Titchener)	5210**	-	-	2115
-	C & R	CR-20-90-**	CR-10-90**	CR-10-90**	CR-10-90**
2111	Knox	5011	2116	2116	2107*
		5210**	-	-	2115
-	Lapp	306120N**	306118N**	306118N**	306118N**
80500	Ohio Brass	80442	78500	88500	81500
		89237**	86534**	86534**	86534**
-	Reliable	-	-	-	420*
-	Penn-Union	DQ2A-026**	DQ2A-026**	DQ2A-026**	-
1437	Gould Inc.	5011	4060	4060	4060
	(ITE)	52101**	1655	2050	2050

\*Clamp furnished with liner--does not require tape.

\*\*Aluminum clamp--does not require liner or tape.

1-2  
January 1980

1 - Deadend for steel strand (overhead ground wire)

TRANSMISSION

For high strength steel strand and aluminum-clad steel strand

<u>Manufacturer</u>	<u>Clamp Type</u>		
	<u>High strength steel</u>	<u>Aluminum-clad steel</u>	
	<u>3/8" and 7/16"</u>	<u>7 No. 9 AWG</u>	<u>7 No. 8 AWG    7 No. 7 AWG</u>
Anderson/Sq. D	SWDE-55N		
Ohio Brass	80437		

u - Deadend for alumoweld guy strand

Strand Size	7#12(6M)	7#11(8M)	7#10(10M)	7#9(12.5M)
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Formed Type  
Alumoweld Guy Strand

Chance

For standard guy	6M-AWSBG	8M-AWSBG	10M-AWSBG	12.5M-AWSBG
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Helical Line Prod.

For standard guy	HG517-6M	HG519-8M	HG521-10M	HG523-12.5M
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Preformed Line Prod.

For standard guy	AWDE-4110	AWDE-4113	AWDE-4116	AWDE-4119
For wrapped guy	WGL-4110	WGL-4113	WGL-4116	WGL-4120

Automatic  
Alumoweld Guy Strand

Reliable

5200

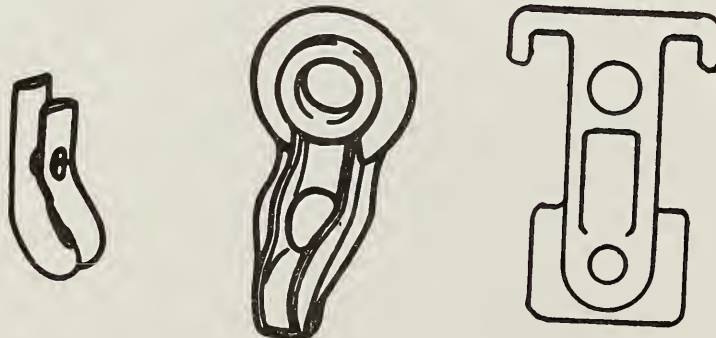
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5202

v  
January 1980

v - Guy Attachment  
for 5/8" bolt

<u>Type:</u>	<u>Formed Strap</u>	<u>Angle Bolt Eye</u>	<u>Guy Hook</u>	<u>Pole Eye Plate</u>
<u>Maximum Working Load Rating</u>	<u>23,130 N (5200 lbs.)</u>	<u>23, 130 N (5200 lbs.)</u>	<u>23,130 N (5200 lbs.)</u>	<u>37,800 N (8500 lbs.)</u>
Anderson Elec./ Square D	-	-	-	GSP-05
Barron Bethea	-	-	GH-5*	-
Bethea/National	-	-	AG-5*	PE5-6A
Chance	5004	0100	C203-0168*	-
Continental Elec.	-	-	GA-54*	PEP-66-45
Dixie	D5004	D0100	DD-9460, DD9462*	-
Flagg (MIF)	-	-	P135A, P157X*	PX88
Joslyn	J25164	J6500	J6555, J6556	-
Kortick	K4035, K4047	K3140	-	-
Lapp (Line Ware)	-	-	304014*	304021
McGraw-Edison	DG6H1	DG11E1	DG14H1*	-
Power Line Hardware	-	-	GA-58C*	GA-548
Util. Service	31030	5531	-	-



\*This hook may also be used in place of the wrapped guy arrangement in assemblies E3-2 and E3-3.

ac  
July 1979

ac - Brace, sidearm diagonal

	<u>1-1/2 inch angle</u> <u>3/16" x 5'</u>	<u>1-3/4 inch angle</u> <u>3/16" x 7'</u>
Chance	-	6984
Joslyn	J1521	J1525
Kortick	K1951	K1954
McGraw-Edison	DB1A1	DB1A5
Utilities Service	5210	5212



ae-1  
January 1980

ae - Surge Arresters, Distribution  
(Lightning Arresters)

<u>Manufacturer</u>	<u>Type</u>	<u>Ratings, kV</u>	<u>Duty</u>
General Electric	Alugard	9, 10, 18	Heavy
Joslyn	Q	9/10, 18	Normal
	J	9/10, 18	Heavy
Kearney	Unigap	9, 10, 18	Heavy
McGraw-Edison	T7M	9/10, 18	Normal
	T7	9, 10, 18	Heavy
Ohio Brass	DA-III	9/10, 18	Normal
	DA-IV	9, 10, 18	Heavy
Westinghouse	GLV	9/10	Normal
	LVBB	18	Normal

NOTE: Only arresters with top gaps and without ground lead  
disconnectors are acceptable.



ae - Surge Arresters, Substation\*  
(Lightning Arresters)

<u>Manufacturer</u>	<u>Type</u>	<u>Accepted Ratings - kV</u>	<u>Manufacturer's Classification</u>
General Electric	Alugard	3, 9, 10, 18	Distribution
	Alugard	3-312	Station
	Alugard	3-120	Intermediate
Joslyn	RS	9, 10, 18	Distribution
	Q	3, 9/10, 18	Distribution
Kearney	Unigap	3, 9, 10, 18	Distribution
McGraw-Edison	E7M	3, 9, 10, 18	Distribution
	F2	9-120	Intermediate
	G	3-144	Station
Ohio Brass	GP	3-72	Intermediate
	MPA	3-15	Station
	MP	3-48	Station
	MPR	60-312	Station
	DA	3, 9, 10, 18	Distribution
Westinghouse	LV	3-20	Distribution
	IVL	3-120	Intermediate
	CPL	3-312	Station

\*For instructions concerning application at substations refer to REA Bulletin 65-1, "Guide for the Design of Substations for Electric Borrowers." In the purchase of arresters, care should be taken to select the type and voltage rating in accordance with the line voltage and the type of construction (grounded or ungrounded).



Conditional List

ae  
January 1980

ae - Surge Arrester, Substation\*

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>General Electric</u> Surge arrester, station class, metal oxide type, Tranquell, 2.7 kV thru 588 kV	1164 5/24/79	To obtain experience.
<u>Ohio Brass</u> Surge arrester, station class, metal oxide type, Dynovar, 52 kV thru 312 kV	1175 11/2/79	To obtain experience.

\*For instructions concerning application at substation refer to REA Bulletin 65-1, "Guide for the Design of Substations for Electric Borrowers." In the purchase of arresters, care should be taken to select the type and voltage rating in accordance with the line voltage and the type of construction (grounded or ungrounded).

ai - Rods, ground, sectional

Galvanized steel and  
copper-covered steel

Copper-covered ground rods are listed with a 13 mil minimum at any point and a 15 mil average covering of copper. All purchases should specify that a factory certification of the thickness of the copper must accompany the shipment of the rods.

Sectional Ground Rods

<u>Manufacturer</u>	<u>8' long</u>	<u>10' long</u>	<u>Couplings</u>	<u>Driving studs</u>
Blackburn	6258s	6260s	60C	60DS
Carolina Galv.	S-588	S-5810	CR58	DS58
Chance Galv. Steel	-	8512	8611	-
Joslyn Galv. Steel	J9158 J23282.8	J9160 J23282.10	J9182 J23282A	J9186 J9186
Knight	S858	S1058	SC58	DS58
Kortick	K5441	K5443	K5482	K5492
McGraw-Edison Galv. Steel	DN17S8	DN16S10	DN1K2	-
Power Line Hardware	PLH-588CS	PLH-5810CS	CBC-58	DS-58
Weaver	W-588T	W-5810T	158C	358D

aj  
January 1980

aj - Clamp, Ground Rod

<u>Manufacturer</u>	<u>For 5/8"</u> <u>Copper-</u> <u>Covered Rod</u>	<u>For 3/4" Galv.</u> <u>or Stainless</u> <u>Steel Rod</u>	<u>For 5/8" Galv.</u> <u>or Stainless</u> <u>Steel Rod</u>
AMP	Copper AMPACT (Order by Description)	-	-
Anderson	GC-5	-	-
Blackburn	G5	-	-
Boggs	G31	-	-
Burndy	GKP635	-	-
C & R Products	CRGC-58	-	-
Copperweld	ABH58	-	-
Dossert	GNL62H	-	-
*Erico (Cadweld)			
1 ground wire	GR1-161G	GR1-181G	GR1-161G
2 ground wires	GR1-161G	GR1-181G	GR1-161G
Greaves/Mercury	G-580	-	-
Ilsco	GRC-58	-	-
Joslyn	J8392AB	R3459	R3459
Krueger & Hudepohl	808	-	-
Kortick	K4647	-	-
O-Z Elec. Mfg.	BG0304	-	-
Penn-Union	CEB-2	-	-
Power Line Hardware	RC-58C	-	-
Reliable	E58	3459	3459
UTM	910-023-03	910-007-02	910-007-02
Weaver	WB5/8	-	-

\*Includes disposable molds.

X

an - Transformers, Power  
Three-Phase, Step-Down  
for Distribution Substation Use

Primary Voltage-kV	kVA						MVA							
	750	1000	1500	2000	2500	3750	5	7.5	10	12	15	20	25	30
Central Moloney														
34.4	X	X	X	X	X	X	X	X						
43.8	X	X	X	X	X	X	X	X	X					
67.0	X	X	X	X	X	X	X	X	X	X				

General Electric

34.4	X	X		X	X	X	X	X	X	X	X	X		
43.8	X	X		X	X	X	X	X	X	X	X	X	X	
67.0	X	X		X	X	X	X	X	X	X	X	X	X	
115							X	X	X	X	X	X	X	
138							X		X	X	X	X	X	

Transformers 5 MVA and larger also accepted as load tap changing transformers using General Electric Types LR72, LR65 and LRT-200 load tap changers.

Kuhlman

34.4	X			X	X	X	X	X	X	X	X			
43.8					X	X	X	X	X	X	X	X	X	
67.0					X	X	X	X	X	X	X	X	X	
115							X	X	X	X	X	X	X	
138								X	X	X	X	X	X	

Transformers 5 MVA and larger also accepted as load tap changing transformers using Siemens-Allis Types TLS and TLH-21 load tap changers.

at-1  
January 1980

at - Guy Marker

8 Foot Length

Steel

<u>Manufacturer</u>	<u>Full Round</u>	<u>Half Round</u>
Joslyn	J1618	J1528
Kortick	K3729	-
McGraw-Edison	DG12G1	DG5G3



at-2  
July 1979

at - Guy Marker

8 Foot Length

Plastic or Fiberglass

<u>Manufacturer</u>	<u>Catalog Number</u>
Chance	96-PBG-2 (Gray) 96-PBG-2Y (Yellow) 96-PBG-2GRN (Green) 96-PBG-2ORG (Orange)
*Electrical Materials	70-5 (Gray) 70-5Y (Yellow)
Joslyn	J1491Y (Yellow) J1491G (Gray)
Nordic	HGR-8 (Orange)
*Preformed Line Products	PG-5508 (Gray) PG-5518 (Yellow) PG-5528 (Green)
*Radar Engineers	6031 (Yellow)
*Virginia Plastics	TG-125-8G (Gray) TG-125-8Y (Yellow)
**Virginia Plastics	FG-8G (Gray) FG-8Y (Yellow)

\*For use with formed or automatic type deadends for guy strand; will not fit over bolt type guy clamps.

\*\*Available with either 1 or 2 bolt clamps.



aw  
July 1979

aw - Washer, Spring

$1\frac{1}{4}$  x  $1\frac{3}{4}$ " x  $3\frac{1}{2}$ "

<u>Manufacturer</u>	<u>Bolt Size</u>		
	<u><math>\frac{5}{8}</math>"</u>	<u><math>\frac{3}{4}</math>"</u>	<u><math>\frac{7}{8}</math>"</u>
Chance	3540	3541	-
Joslyn	J3540	J3541	J3542
Kortick	K2909	-	-
Fastex (ITW) "Ramp Lok"	1-760-21	1-760-31	1-760-41
McGraw-Edison	DF17W3	DF17W4	DF17W5

## ax - Cutout and Arrester, Combination

Nominal System Voltage		For 7.2/12.5 kV Wye		For 7.6/13.2 kV Wye		For 14.4/24.9 kV Wye	
Cutout Max. Voltage Rating		7.8 kV		15 kV		18 kV	
Application				3 $\phi$ Bank	3 $\phi$ Bank	3 $\phi$ Bank	3 $\phi$ Bank
Cutout Current Rating		1 $\phi$ Sect.	3 $\phi$ Sect.	3 $\phi$ Sect.	3 $\phi$ Sect.	3 $\phi$ Sect.	3 $\phi$ Sect.
Type		100	100	1 $\phi$ Sect.	1 $\phi$ Sect.	1 $\phi$ Sect.	1 $\phi$ Sect.
Manufacturer		50*	50*	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.
		50*	50*	50*	50*	50*	50*
Manufacturer		100	100	100	100	100	100
Mounting		1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.	1 $\phi$ Trans.</

Either normal duty or heavy duty distribution class arresters listed on page ae-1 are acceptable for use with these combination units.

\*These cutouts have open links and must not be used where fault currents are high or for sectionalizing.

(L) Indicates loadbreak type is available.

ax - Cutout and Arrester, Combination

Nominal System Voltage Cutout Max. Voltage Rating	For 7.2/12.5 kV Wye		For 7.6/13.2 kV Wye		For 14.4/24.9 kV Wye	
	7.8 kV		15 kV		15 kV	
	For 1Ø Transformers & 1Ø Sectionalizing 50*	For 3Ø Banks & 3Ø Sect. 100	For 1Ø Trans. & 1Ø Sect. 50*	For 3Ø Banks & 3Ø Sect. 100	For 1Ø Trans. & 1Ø Sect. 50*	For 3Ø Banks & 3Ø Sect. 100
Application	Catalog Numbers					
Cutout Current Rating						
Manufacturer Type Mounting						
Westinghouse Crossarm Electric	7.8 NCX/ 9 LVG	15 NCX/10 LVG		15 NCX/10 LVG		24.9 NCX/ 18 LVG
	7.8 LBU-II/ 9 LVG	15 LBU-II/10 LVG		15 LBU-II/10 LVG		24.9 LBU-II/ 18 LVG

Either normal duty or heavy duty distribution class arresters listed on page ae-1 are acceptable for use with these combination units.

\*These cutouts have open links and must not be used where fault currents are high or for sectionalizing.

(L) Indicates loadbreak type is available.

ay  
July 1979

ay - Cutout and gap, combination

<u>Manufacturer</u>	<u>Type of Mounting</u>	<u>7.2/12.5 kV 50 amp*</u>	<u>14.4/24.9 kV 50 amp*</u>
RTE	Transformer	32-2674A03	32-2674A06

\*These combinations contain the open-link type of cutout.

az  
January 1980

az - Pole Numbers and Letters, Metal

(See Drawing M52-3)

Manufacturer

Almetek

Premax Products

Catalog No.

Order by description

1523

ba  
July 1979

ba - Bolt, Angle Eye

Thimble Type

Applicable Specifications: Edison Electric Institute  
Specification TD-4 1958  
"Specifications for Eye Bolts"

Applicable Sizes : 5/8 inch, 6 through 12 inch length  
3/4 inch, 8 through 12 inch length

The following manufacturers have shown compliance with the applicable specifications:

A. B. Chance Company  
Dixie Electrical Manufacturing Company  
Joslyn Manufacturing and Supply Company  
Kortick Manufacturing Company  
\*McGraw-Edison Company  
Utilities Service Company



\*"Static proof" designs available.



bi - Gain, pole

For use with rectangular crossarms

Chance	4092
Continental	CAG-44-5
Flagg (MIF)	PX252
Joslyn	J4092

For braceless crossarms (narrow profile construction)

Bethea/National	GCAF-6A
Continental	DEA-65-10A
Flagg (MIF)	PX182A
Lapp	304065

Transmission

Grid Gains

	Sizes in inches	
	<u>4" x 4"</u>	<u>4½" x 9"</u>
Barron Bethea	PG-44	PG-945
Bethea/National	FGSF-44-7	FGSF-95-7
Continental	GGSF-4040-7	GRF-9045-7
Flagg (MIF)	PX122	PX260
Joslyn	J6064	J22533-A
Lapp (Line Ware)	304067	304070



bj  
July 1979

bj - Guy Hook

Applicable Specification: Edison Electric Institute Specification TD-11  
1951, "Specifications for Guy Hooks and Guy  
Strain Plates"

Dixie D6584

Joslyn J1019

Kortick K4031

McGraw-Edison DG4H1

Utilities Service 5310



by  
January 1980

by - Deadend, Automatic and Formed Type

<u>Fargo</u>	<u>Reliable</u>	Conductor Size	
		<u>Cu</u>	<u>CWC</u>
GD-515	4A SDS	-	4A
GD-513	6A SDS	-	6A
GD-512	8A SDS	-	8A
GD-515	27LD	2 x 3	-
GD-512	41LD	4	-
GD-511	61LD	6	-

ACSR

*Fargo	GD-400 Series
*Reliable	7650 Series
*Preformed	OHDE-9534 thru 9540 OHDE-4577 Use with thimble clevis PSTC-5247
<u>Aluminum Alloy (6201 and 5005)</u>	
Fargo	GD-A Series
Reliable	AL Series

\*For use on distribution only.

Conditional List  
by  
July 1979

by - Deadends, automatic and formed type

FORMED TYPE

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>Preformed Line Products</u>		
AWAC 4 - 4/3	993	To obtain experience.
DG-4560	6/8/72	
AWAC 2 - 4/3		
DG-4562		
AWAC 1/0 - 4/3		
DG-4565		

AUTOMATIC TYPE

<u>Reliable</u>		
AWAC 4-4/3	1026	To obtain experience.
5201	9/27/73	
AWAC 2-4/3	1035	
5202	2/21/74	
AWAC 1/0-4/3		
5204		
<u>Fargo</u>		
AWAC 4-4/3	1087	To obtain experience.
GDA-235	4/1/76	
AWAC 2-4/3		
GDA-240		
AWAC 1/0-4/3		
GDA-245		

cg - Switch, air, three-pole, group-operated  
NEMA standard switches for station and line structures

Manufacturer	Acceptable Mounting on Structure	Titriling Ins.		Vertical Break		Side Break		Center Break		Double Break	
		Type	kV	Type	kV	Type	kV	Type	kV	Type	kV
Gould Inc. ITE	Horizontal	3ST	15-34.5	TTR6	15-161						
Johnson	Horizontal			VIP	15-230	LS	15-69	M	15-230		
Joslyn (Hi-Voltage)	Horizontal			RF-2	15-230	RB-1(VL)	15-25				
	Horizontal					RB-1*	15-115				
Kearney	Horizontal	NE-2	15-34.5	AR 60-P	15-69						
MEMCO	Horizontal	AgF	15-69	EA	15-345			EE	69-230		
	Horizontal	AgC	15-69								
H. K. Porter (Delta-Star)	Horizontal			MK-40	15-69	PMB-40A	15-69	LPC	69-230		
Siemens-Allis	Horizontal			TA(VL)	15-345	SSB	15-138	CCB	115-230		
								CBL-2	115-230		

(L) Means gas or solid material full-load interrupters are accepted and available.

(VL) Means vacuum full-load interrupters are accepted and available.

\* These switches may be purchased with reduced voltage vacuum interrupters and may be applied for loop sectionalizing duty when peak recovery voltage does not exceed 25 kV.

NOTE: Vertical phase-over-phase mounted switches are not acceptable above 25 kV class unless equipped with full-load interrupters. Switches of 15 kV and 25 kV classes with individual phases mounted on wood crossarms or poles must be supplied with insulated interphase and control rods.

cg - Switch, air, three-pole, group-operated  
NEMA standard switches for station and line structures

Manufacturer	Acceptable Mounting on Structures	Tilting Ins. Type	Ins. kV	Vertical Break		Side Break		Center Break		Double Break	
				Type	kV	Type	kV	Type	kV	Type	kV
Powerdyne (Kearney)	Horizontal							VL-V4	34.5-230		
	Phase over Phase					RG-63(L)	15-69				
ANIXTER Royal	Horizontal	AL-2	15-46	RVL	15-161	RSL	15-161	ZAD	34.5-230		
	Horizontal	AL	15-46	RVL-61	15-230	RSL-L(L)	15-69				
S & C	Horizontal			Alduti (L)	15-34.5	Alduti (L)	15-25			Alduti (L)	34.5-46
	Phase over phase			Alduti (L)	15-25	Alduti (L)	15-25			Alduti (L)	34.5-46
	Vertical			Alduti (L)	*15-34.5	Alduti (L)	15-25			Alduti (L)	*34.5-46
Southern States	Horizontal			WAG	15-230	57K	15-69				
	Phase over phase					(LD, 2D, 3D)	(VL) 15-161				
Turner	Horizontal					LD(VL)	15-161				
USCO	Horizontal			AGT(VL)**15-230	GSH-4(VL) 15-138	AGCH**	15-345				
	Horizontal					AGCH-V**34.5-230					
	Phase over phase					GSH-4(VL) 15-138	GCH	15-23			

(L) Means gas or solid material full-load interrupters are accepted and available.

(VL) Means vacuum full-load interrupters are accepted and available.

\* These switches, except 34.5 kV Alduti vertical break, are available and accepted in combination with the S & C Type SMD substation fuse cutouts listed on page af-3.

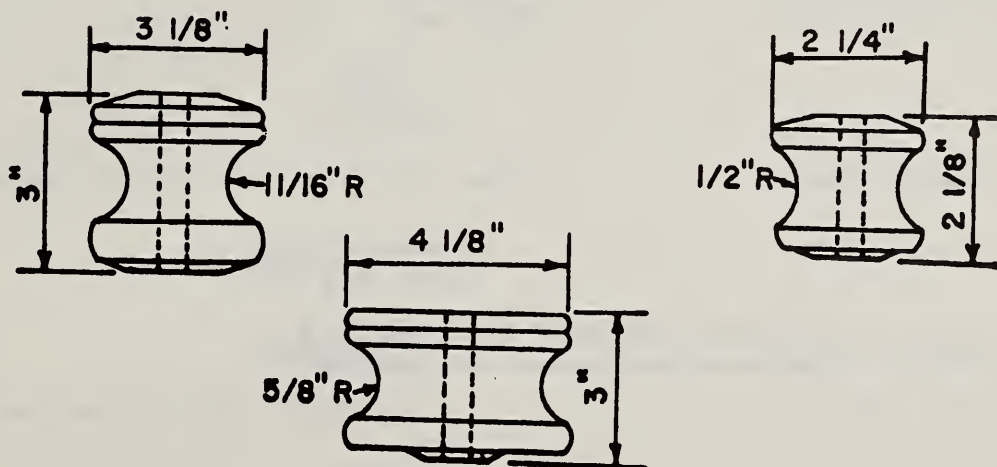
\*\* Also available in bronze in some ratings.

NOTE: Vertical phase-over-phase mounted switches are not acceptable above 25 kV class unless equipped with full-load interrupters. Switches of 15 kV and 25 kV classes with individual phases mounted on wood crossarms or poles must be supplied with insulated interphase and control rods.



cm - Insulator, Spool

Type:	<u>Secondary (Wet Process)</u>		<u>Service</u>	
			<u>Wet Process</u>	<u>Dry Process</u>
Groove Diameter:	<u>1-3/4"</u>	<u>3"</u>	<u>1-3/8"</u>	<u>1-3/8"</u>
Chance	C909-1032	C909-1034	C909-1031	0606
Hughes	2102	-	-	-
Gould Inc. (ITE)	2012	2026	2011	-
Joslyn	J151	J0101	J150	J100
Kortick	K516	K522	K513	K514
McGraw-Edison	DE4S3	DE5S1	DE2S2	DE2S1
Porcelain Prod. (Knox)	310	306	303W	300D
Universal	1082	-	-	-
Utilities Service	205	31221	208	207



cp  
January 1980

cp - Deadend, Compression Type

ACSR

<u>Conductor Size</u>	<u>Alcoa</u>	<u>AMP</u>	<u>Anderson/Sq. D</u>
1/0	Order by		VCD-50R
2/0	Conductor		thru
3/0	Size and		VCD-61R
4/0	Stranding		"
266.8 kcmil 26/7	2-piece		
336.4 kcmil 26/7	alloy		
477 kcmil 26/7	compression	Type DE (Order	
556.5 kcmil 26/7	"	by Conductor	
795 kcmil 26/7	"	Size and	VCD-835-4RM
954 kcmil 54/7	"	Stranding)	VCD-835-4RM

<u>Conductor Size</u>	<u>Burndy</u>	<u>Fargo(Alcan)</u>	<u>Kearney</u>	<u>Somerset/Homac</u>
1/0	Type Y-W		104000	Order by
2/0	"		thru	Conductor
3/0	"		104000-03	Size and
4/0	"		"	Stranding
266.8 kcmil 26/7	"	SEDA-1109	104000-05	"
336.4 kcmil 26/7	"	SEDA-1309	thru	"
477 kcmil 26/7	"	SEDA-1809	104000-14	"
556.5 kcmil 26/7	"	SEDA-2209	"	"
795 kcmil 26/7		SEDA-3309		
954 kcmil 54/7		SEDA-4121		

ACSR  
Adjustable

Somerset/Homac

Order by conductor size and stranding.

Aluminum Alloy  
(6201 and 5005)

Conductor Size:

4 thru 4/0

Anderson/Sq. D

Type VCD, Order by conductor size.

Copper

Conductor Size:

2 x 3

4

6

National Tel. Supply

71-258/3X

71-204-P

71-162-J

Copperweld-Copper

Conductor Size:

6A

8A

National Tel. Supply

71-6A-P

71-8A-P

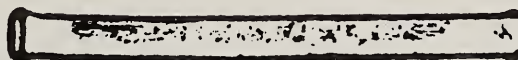


cx - Splice, oval tube

<u>Conductor Size:</u>	<u>4</u>	<u>2</u>	<u>ACSR</u>	<u>1/0</u>	<u>2/0</u>
ALCOA	544	542		540	529

<u>Conductor Size:</u>	<u>0 x 7</u>	<u>2 x 3</u>	<u>Copper</u>	<u>4</u>	<u>6</u>
MEMCO	63	62		58	56
National Tel. Supply	464	463		459	457

<u>Conductor Size:</u>	<u>Copperweld-Copper</u>	<u>6A</u>	<u>8A</u>
MEMCO		170	168
National Tel. Supply		460	459



cy-1  
January 1980

cy - Splice, Compression  
ACSR

<u>Conductor Size</u>	<u>AMP</u>	<u>Alcoa</u>	<u>Anderson/ Sq. D</u>	<u>Burndy</u>
4 6/1		2-piece	VC-36R	"Unisplice"
4 7/1		Order	VC-36R	(1-piece)
2 6/1		by	VC-36R	or Y-S
2 7/1		Conductor	VC-36R	(2-piece)
1/0		Size	VC-50R	Order by
2/0		and	VC-50R	Conductor
3/0		Stranding	VC-61R	Size and
4/0		"	VC-61R	Stranding
266.8 kcmil 26/7		2-piece		2-pc.
336.4 kcmil 26/7		Compression		"
477 kcmil 26/7	Type SP	Alloy (Order		"
556.5 kcmil 26/7	(Order by	by Conductor		"
795 kcmil 26/7	Conductor Size	Size and	VC-835-4RM	
954 kcmil 54/7	and Stranding)	Stranding)	VC-835-4RM	

<u>Conductor Size</u>	<u>Fargo (Alcan)</u>	<u>ITT Blackburn</u>	<u>Kearney</u>
4 6/1		Type RC	OH4-61A
4 7/1		1-piece	OH4-71A
2 6/1		Order	OH2-61A
2 7/1		by	OH2-71A
1/0		Conductor	OH1/0-61A
2/0		Size	OHR2/0-61A
3/0		and	OHR3/0-61A
4/0		Stranding	HR4/0-61A
266.8 kcmil 26/7	TJA-1109	Type DT	HR-266-267A
336.4 kcmil 26/7	TJA-1309	2-piece	HR-336-267A
477 kcmil 26/7	TJA-1809	for	HR-477-267A
556.5 kcmil 26/7	TJA-2209	kcmil sizes	HR-556-267A
795 kcmil 26/7	TJA-3309		
954 kcmil 54/7	TJA-4121		

<u>Conductor Size</u>	<u>Nat. Tel. Supply</u>	<u>Somerset/ Homac</u>	<u>Penn- Union</u>
4 6/1	"Nicopress"	"Tension	Type KFAS
4 7/1	(1-pc. or 2-pc.)	splicer"	(1-piece)
2 6/1	Order by Conduc-	(1-piece or	Order
2 7/1	tor Size and	2-piece)	by
1/0	Stranding	Order by	Conductor
2/0	2-pc.	Conductor	Size
3/0	"	Size and	and
4/0	"	Stranding	Stranding
266.8 kcmil 26/7	"	2-pc.	
336.4 kcmil 26/7	"	"	
477 kcmil 26/7	"	"	
556.5 kcmil 26/7	"	"	
795 kcmil 26/7			
954 kcmil 54/7			

cy - Splice, Compression

Copper and Copperweld-Copper

<u>Conductor Size</u>	<u>Anderson/ Sq. D.</u>	<u>Burndy</u>	<u>Kearney</u>	<u>Nat. Tel. Supply</u>
6 cu	VCC-28	YDS6W	OH6C	1-162/J
4 cu	VCC-28	YDS4W	OH4C	1-204/P
2 x 3 cu	-	YDS2C-3	OH2-3CX	1-258/3X
0 x 7 cu	-	YDS25	OH1-7C	1-325/7F6
8A CWC	VCC-28	YDS8KT	OHR8ACW	1-8A-P
6A CWC	VCC-28	YDS6KT	OHR6ACW	1-6A-P
4A CWC	VCC-37	YDS4KT	OHR4ACW	1-4A-X
2A CWC	VCC-43	-	-	-

<u>Conductor Size</u>	<u>Reliable</u>	<u>Somerset/ Homac</u>	<u>Penn- Union</u>
6 cu	6-J-1	J2C3	BFW
4 cu	4-P-1	L2C5	BFW
2 x 3 cu	2/3STR-X1	S2C7	-
0 x 7 cu	-	U2C9	BF
8A CWC	8A-P-1	L2E1	-
6A CWC	6A-P-1	L2E3	-
4A CWC	4A-X-1	Q2E5	-
2A CWC	-	U2E7	-



dt  
July 1979

dt - Deadend, service

For deadending triplex type service cable, Drawing K10C.

<u>Manufacturer</u>	<u>ACSR Size</u>	<u>Wedge Type</u>	<u>Catalog No.</u> <u>Formed Type</u>
Blackburn	4	W6-4AA	-
	2	W6-2AA	-
	1/0	W2-0AA	-
Burndy	4	CW2R-1	-
Chance	4	-	CSG-030
	2	-	CSG-050
	1/0	-	CSG-070
Joslyn	4 & 2	R7295	-
	1/0	R7287	-
Penn-Union	4 & 2	WDC-2S	-
	1/0	WDC-10S	-
Preformed Line Products	4	-	SG-4502
	2	-	SG-4504
	1/0	-	SG-4506
Reliable	4 & 2	7295	-
	1/0	7287	-

du  
January 1980

du - Link, Extension

Distribution

<u>Manufacturer</u>	<u>Catalog No.</u>
Flagg (MIF)	PA320
McGraw-Edison	DC33B6
Utilities Service	495

Transmission

Gould Inc. (ITE)	3074A
Joslyn (Bolted) (High Strength)	J7712 J22609
Knox	3074A
McGraw-Edison	DC152B1

Guy Extension Link  
(For "H" Structure)

<u>Manufacturer</u>	<u>One Guy Attachment</u>	<u>Two Guy Attachment</u>
Joslyn	J22421	J22523

NOTE: The distribution extension links may be substituted for anchor shackle (Item bo), eye bolt (Item o) and eye nut (Item aa) for both small and large conductor drawings shown in REA Forms 803 and 804 at the option of the owner.

fc  
January 1980

fc - Capacitor, Shunt  
12470/7200 volts

	<u>25 KVAR</u>	<u>50 KVAR</u>	<u>100 KVAR</u>	<u>150 KVAR</u>	<u>200 KVAR</u>
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Single Bushing

General Electric	52F126AB	51F126AB	54F126AB		
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Sangamo	323579	323654	323704		
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Two Bushing

General Electric	52F106AA	51F106AA	54F106AA		
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Sangamo	323393	323742	323684		
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## Conditional List

fc(1)

July 1979

fc - Capacitors, shunt  
12470/7200 volts

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>General Electric</u>		
Film type, 1 bushing	1118	To obtain experience.
52L226KC (25 kvar)	7/14/77	
51L226KC (50 kvar)		
54L226KC (100 kvar)		
54L526KC (150 kvar)		
58L126KC (200 kvar)		
Film type, 2 bushing		
52L206KC (25 kvar)		
51L206KC (50 kvar)		
54L206KC (100 kvar)		
54L506KC (150 kvar)		
58L106KC (200 kvar)		
<u>McGraw-Edison</u>		
All film type, 1 bushing	1109	To obtain experience.
CEP131B6 (100 kvar)	3/3/77	
CEP132B6 (150 kvar)		
CEP140B6 (200 kvar)		
All film type, 2 bushing		
CEP131A6 (100 kvar)		
CEP132A6 (150 kvar)		
CEP140A6 (200 kvar)		

fm  
July 1979

fm - Bracket, Arrester and Pothead Extension

For Distribution Arrester and Cutout - Pole Mounting

<u>Manufacturer</u>		<u>Single Phase</u>	<u>Three Phase</u>
Aluma-Form		1HCA-18 Series	R3CA-48
Anderson Elec./ Square D	12.5/7.2 kV 24.9/14.4 kV	COB-E-120-TGL COB-E-180-TGL	
Bethea/National	12.5/7.2 kV 24.9/14.4 kV	VIB3-12F-GC VIB3-18F-GC	
Chance		C653-1038	C653-1056
Continental		IACB-18-5-LGE	
Flagg (MIF)	12.5/7.2 kV 24.9/14.4 kV	PA613H PA619H	
Lapp	12.5/7.2 kV 24.9/14.4 kV	304036-G 304038-G	
McGraw-Edison		DC34B3	
Power Line Hardware	12.5/7.2 kV	CA-12-3GL	
Shakespeare		892-18	670-40

For two distribution arresters in parallel or  
one arrester and cutout - crossarm mounted

<u>Manufacturer</u>	<u>Catalog No.</u>
McGraw-Edison	DM23B2

For Intermediate Arrester Mounting

<u>Manufacturer</u>	<u>Single Phase</u>	<u>Three Phase</u>
Aluma-Form	WBMA-1	R3CSA-48

fn  
January 1980

fn - Bracket, Cutout Extension

<u>Manufacturer</u>		<u>Catalog Number</u>
Anderson Elec./ Square D	12.5/7.2 kV 24.9/14.4 kV	COB-E-120-TGL COB-E-180-TGL
Bethea/National	12.5/7.2 kV 24.9/14.4 kV	VIB3-12F-GC VIB3-18F-GC
Chance		C653-1038
Flagg (MIF)	12.5/7.2 kV 24.9/14.4 kV	PA613H PA619H
Lapp	12.5/7.2 kV 24.9/14.4 kV	304036-G 304038-G
McGraw-Edison		DC34B1
Power Line Hardware	12.5/7.2 kV	CA-12-3GL
Shakespeare		892-18

sb - Switch, disconnect (single-pole, hook-operated station class)

NEMA standard switches for station or line  
structure use where single-pole switching is permissible

<u>Manufacturer</u>	<u>Type</u>	<u>Voltage Ratings</u>	<u>System Voltages Line-to-Line</u>
ANIXTER Royal	BT	15 thru 69 kV	12.5 thru 69 kV
Bridges	EH	15 thru 69 kV	12.5 thru 69 kV
	EHL(L)	15 thru 69 kV	12.5 thru 69 kV
	HA	15 thru 69 kV	12.5 thru 69 kV
<u>Gould Inc.</u> (ITE)	HPL	15 thru 69 kV	12.5 thru 69 kV
	DS(PL)	15 and 23 kV	12.5, 13.2, 24.9 kV
Hi-Voltage (Joslyn)	HU	15 thru 69 kV	12.5 thru 69 kV
	HI	15 thru 69 kV	12.5 thru 69 kV
Johnson	HPT	15 thru 69 kV	12.5 thru 69 kV
Kearney	M-72(PL)	15 thru 69 kV	12.5 thru 69 kV
McGraw-Edison	D2(PL)	15 and 23 kV	12.5, 13.2, 24.9 kV
MEMCO	STV	15 thru 69 kV	12.5 thru 69 kV
	STU	15 thru 69 kV	12.5 thru 69 kV
Morgan	DHS	15 thru 69 kV	12.5 thru 69 kV
	(PL included in 15 kV)		
H. K. Porter (Delta-Star)	B-2M	15 thru 69 kV	12.5 thru 69 kV
	EV(PL)	15 thru 34.5 kV	12.5 thru 34.5 kV
S & C	LBD(PL)	15 thru 34.5 kV	12.5 thru 34.5 kV
	Alduti(L)	15 and 25 kV	12.5 thru 24.9 kV
Siemens-Allis	HA	15 thru 69 kV	12.5 thru 69 kV
	HS(PL)	15 and 25 kV	12.5 thru 24.9 kV

(L) Means solid material load interrupters are available and accepted.

(LV) Means vacuum interrupters are available and accepted.

(PL) Means hooks for portable load interrupters are available.

sb-2  
July 1979

sb - Switch, disconnect (single-pole, hook-operated station class)

NEMA standard switches for station or line  
structure use where single-pole switching is permissible

<u>Manufacturer</u>	<u>Type</u>	<u>Voltage Ratings</u>	<u>System Voltages Line-to-Line</u>
Southern States	PBO	15 thru 69 kV	12.5 thru 69 kV
	*PBN	15 thru 23 kV	12.5, 13.2, 24.9 kV
USCO	HH(PL)	15 thru 69 kV	12.5 thru 69 kV
	HD-66(PL)	15 thru 34.5 kV	12.5 thru 34.5 kV

(L) Means solid material load interrupters are available and accepted.

(LV) Means vacuum interrupters are available and accepted.

(PL) Means hooks for portable load interrupters are available.

\* With steel base only.



sb - Switch, disconnect (single-pole, hook-operated  
distribution class)\*

For distribution line use where power class insulation is not required  
and single-phase switching is permissible.

(Not suitable for substation use)

<u>Manufacturer</u>	<u>Type</u>	<u>Voltage Rating</u>	<u>System Voltage Line-to-Line</u>
ANIXTER Royal	BLT(PL)	15 and 23 kV	12.5, 13.2, 24.9 kV
Chance	M3(PL)	15 kV	12.5, 13.2 kV
Gould Inc. (ITE)	DS(PL)	15 and 23 kV	12.5, 13.2, 24.9 kV
Kearney	D-73(PL)	15 and 23 kV	12.5, 13.2, 24.9 kV
McGraw-Edison	D2(PL)	15 and 25 kV	12.5, 13.2, 24.9 kV
Morgan	DHS (PL included in 15 kV)	15 and 23 kV	12.5, 13.2, 24.9 kV
H. K. Porter	EV(PL)	15 kV	12.5 kV
S & C	LBD(PL)	15 and 25 kV	12.5, 13.2, 24.9 kV
Siemens-Allis	HD(PL)	15 and 25 kV	12.5 thru 24.9 kV
Southern States	PD-2	15 and 23 kV	12.5, 13.2, 24.9 kV
	PDJ-2(PL)	15 and 23 kV	12.5, 13.2, 24.9 kV
USCO	HD-H2I(PL)	15 and 27 kV	12.5, 13.2, 24.9 kV

NOTE: Switches on this page must be furnished with four bolts for  
double crossarm mounting.

(L) Means solid material load interrupters are available and accepted.

(PL) Means hooks for portable load interrupters are available.

(LV) Means vacuum interrupters are available and accepted.

\*Steel bases only.



sc-1  
July 1979

sc - Regulators, Voltage  
7.2/12.5 kV  
7.62/13.2 kV

Applicable Specification: REA "Specification for Substation Regulators,"  
S-2

<u>Type</u>	<u>Size</u>	<u>Description</u>
<u>General Electric</u>		
ML-32	19.1 - 509 kVA	(SL) Single phase - step type
MLT	500 - 1000 kVA	(S) Three phase - step type
VML-32	500 - 833 kVA	(S) Single phase - vacuum step type
VMLT-32	1200 - 2800 kVA	(S) Three phase - vacuum step type
<u>McGraw-Edison</u>		
RSAA	19.1 - 500 kVA	(SL) Single phase - step type
RAB	50 amp.	(L) Single phase - step type (Auto-Booster)
<u>Siemens-Allis</u>		
JFR	38.1 - 416.3 kVA	(SL) Single phase - step type
LFR	50 amp.	(L) Single phase - step type
<u>Westinghouse</u>		
UTS, UTT	167 - 1000 kVA	(S) Three phase - step type

(L) Indicates line use  
(S) Indicates substation use

sd  
January 1980

sd - Current Transformers  
Outdoor Types

<u>Manufacturer</u>	<u>.6 kV</u>	<u>15 kV</u>	<u>25 kV</u>	<u>34.5 kV</u>	<u>69 kV</u>
Associated Engineering	GT HA WEO	BB-15 LG-15	BB-25 LG-25 COF	LG-34.5 COF	
Astra	AA TFW AB AD				
Duncan	DCBW DCCW DCAB				
General Electric	JCR-0 JCW-0 JAK-0 JAD-0	JKW-5	JKW-6 JKW-150 KG-150	JKW-200 KG-200	JKW-350 KG-350
Sangamo	B6 Type	SMC-150			
Westinghouse	CSB-10 CTR CLA-10	CTOM-110 CTOM-15	ACT-150 CCO-150	ACT-200	ACT-350

NOTE: The transformer types listed above are accepted in all standard ratios. Insulation class, voltages, ratios and other necessary information should be specified when ordering.

Conditional List  
sd  
July 1979

sd - Current Transformers  
Outdoor Types

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>Electromagnetic Ind.</u>		
Type IK-E, 46-69 kV	971 (7/15/71)	To obtain experience.
Type UMCT, 0.6 kV	981	
Type UCT, 0.6 kV	12/16/71	
Type CO3-110, 15 kV	1076	
Type CO3-150, 25 kV	10/30/75	
Type CO3-200, 34.5 kV		
 <u>General Electric</u>		
Type JCK-5, 15 kV	1059 2/20/75	To obtain experience.

## PART II

### Underground Distribution Equipment

The realm of underground distribution has made quite significant advances in the past few years. Due to these advances and the increasing feasibility of underground rural distribution, most REA borrowers have placed some distribution equipment underground, are presently planning to, or are anticipating doing so in the future. If borrowers are to obtain reliable and economical underground systems, approved standards for construction and equipment must be observed.

Underground equipment considered suitable is being included in the "List of Materials Acceptable for Use on Systems of REA Electrification Borrowers." Specifications have been written and are available on much of this equipment. It must be realized that very little operating experience is available on this type equipment. Therefore, much of the underground equipment will be listed as "Conditional" until such experience is obtained that will warrant removing the "Conditional" listing. Listing of an item as "Conditional" does not mean that the item is inferior. Conditional means that service experience is desired so the item can be properly evaluated and demonstrates satisfactory performance before consideration for final acceptance.

Any comments or suggestions regarding the use or operation of the listed underground equipment will be welcome.

U ae - Surge Arresters, Distribution  
for Underground System Pole Risers  
(Lightning Arresters)

<u>Manufacturer</u>	<u>Arrester Class</u>	<u>Arrester Type</u>	<u>Ratings - kV</u>
General Electric	Distribution, heavy duty	Alugard	9, 10, 18
	Intermediate	Alugard	9, 10, 18
Joslyn	Distribution, normal duty	Q	9/10, 18
	Distribution, heavy duty	J	9/10, 18
	Intermediate*	RS	9, 10, 18
Kearney	Distribution, heavy duty	Unigap	9, 10, 18
McGraw-Edison	Distribution, normal duty	E7M	9/10, 18
	Distribution, heavy duty	E7	9, 10, 18
	Intermediate	RP	9, 10, 18
Ohio Brass	Distribution, normal duty	DA-III	9/10, 18
	Distribution, heavy duty	DA-IV	9, 10, 18
	Intermediate	GP	18
Westinghouse	Distribution, normal duty	GLV	9, 10
	Distribution, normal duty	LVBB	18

\*Has intermediate class arrester characteristics but does not have intermediate class venting capability.

NOTE: The arresters listed on this page may be used singly or in parallel, but must be applied in accordance with paragraph VI.A., in REA Bulletin 61-3, "Underground Rural Distribution." Other arresters listed on pages ae-1 and ae-2 may be used for underground systems when applied in accordance with this bulletin.



U ax - Cutout and Arrester, Combination  
for Underground System Pole Risers

Nominal System Voltage	For 7.2/ 12.5 kV Wye	For 7.6/ 13.2 kV Wye	For 14.4/ 24.9 kV Wye
Cutout Maximum Voltage Rating	7.8 kV 1 $\phi$	15 kV 3 $\phi$	15 kV 1 $\phi$ and 3 $\phi$
Application	Risers	Risers	Risers
Cutout Current Rating	100 amps	100 amps	100 amps

<u>Manufacturer</u>	<u>Catalog Numbers</u>			
Chance	T70J-2B3409	T70J-2F2409	T70J-2F2409	
General Electric	9F80	9F80	9F80	
Joslyn	J9237-P2	J9237-P2/R	J9237-P2-R	J9267-D2
McGraw-Edison	AFM300B Series	AFM300C Series	AFM300C Series	AFM301D Series
Southern States	CA Series	CA Series	CA Series	CA Series

NOTE: The units listed on this page may be used with single arresters or arresters in parallel, but must be applied in accordance with paragraph VI.A. in REA Bulletin 61-3, "Underground Rural Distribution." Other arresters listed on pages ae-1 and ae-2 may be used for underground systems when applied in accordance with this bulletin.

Cutouts used on underground riser poles should be loadbreak type or have hooks for portable load interrupters.

Either normal duty or heavy duty distribution class arresters listed on page ae-1 are acceptable for use with these combination units.



U cg  
July 1979

U cg - Switch, air, three-pole, group-operated  
for pole-mounted cable risers  
(Factory Preassembled)

<u>Manufacturer</u>	<u>Mounting</u>	<u>Side Break</u> <u>Type      kV</u>
Chance	Vertical	D4,D5(L)15-27
	Horizontal	D4,D5(L)15-27
S & C	Vertical	Alduti(L)15-25
	Horizontal	Alduti(L)15-25

(L) Means gas or solid material full-load interrupters are accepted and available.

NOTE: Switches with factory-assembled crossarm type bases must have nonconducting crossarm type bases, nonconducting braces, and insulated interphase and control rods.

U gn - Enclosures, equipment

Sectionalizing Enclosures

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>Malton Electric</u>		
MEJ Series	1045(7/11/74)	To obtain experience.
ME Series	1108(2/17/77)	
	1130(1/5/78)	
MEH Series	1167(7/12/79)	
<u>Vertex Plastics</u>		
1826B, 1Ø	1045	To obtain experience.
1826C, 1Ø	7/11/74	
1881, 3Ø	1110(3/17/77)	
<u>Gerard</u>		
Mod-Brk		
6-115-000	1047	To obtain experience.
6-125-000	8/8/74	
6-315-010		
6-115 Series***		
6-125 Series***		
<u>Inter-Alloys</u>		
15 kV and 25 kV	1051(10/10/74)	To obtain experience.
Primary terminal pedestals	1133	
PP Series, 1Ø and 3Ø	2/16/78	
*PP-PM Series, 1Ø and 3Ø		
<u>Fargo</u>		
15 kV and 25 kV	1068(6/26/75)	To obtain experience.
UP-400	1074(9/25/75)	
<u>Galva-Closure Products</u>		
Series AG	1132	To obtain experience.
Series BB	2/2/78	
<u>Hoffman</u>		
U-J Series junction enclosures	1135	To obtain experience.
	3/23/78	
U-JGS Series ground sleeves	1147	
	9/14/78	
<u>Utility Products Co.</u>		
PPB (15 & 25 kV)	1162(4/26/79)	To obtain experience.

\*For pole mounting

\*\*For crossarm mounting

\*\*\*Available with surge arresters

Conditional List  
U gn(4)  
January 1980

U gn - Enclosures, Equipment

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>Sectionalizing Enclosures</u>		
<u>Ranger</u> TE-501, TE-503, J-34-TB	1165(6/7/79)	To obtain experience.
<u>Kearney</u> CTC 653-0033	1177(11/29/79)	To obtain experience.

Burial Type

<u>Sonoco Products Co.</u> 36" Duropipe (fiber) transformer vault. Available with stainless steel clevises, angle or tab ring, protective shields and cast iron or welded steel grates.	836 3/10/66	To obtain experience.
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U go  
July 1979

U go - Fault Indicator  
(For Construction Unit UM6-4)

<u>Manufacturer</u>	<u>Type</u>
Burndy	Series 18 and 18F (To be used on single-phase circuits only)
Dossert	FLO-40
Edison Control Corp.	Series EC-100
Fisher Pierce	Series 1514 (To be used on single-phase circuits only)
McGraw-Edison	Linam
RTE	TPR, LV, MR

U gp - Connector Blocks and Splices, Secondary

Watertight - For Use In All Locations

<u>Manufacturer</u>	<u>Connection Type</u>	<u>Catalog Number</u>
Alcoa	Lug	Interchange-I ABB Series Use with A-9 insulating boots
Alcon	Set screw	VPB Series
AMP	Compression	600 Volts secondary UG Distribution 4-way and 6-way bus system
Blackburn	Lug	Series UP (with lugs and sleeves)
Burndy	Lug	URD Mole
Electrical Spec. Prod.	Lug	Type UC (8 AWG - 500 kcmil) (with LA lug and sleeve)
	Set screw	Type UB (with sleeve) Splice Type ACL-HSH (6AWG - 500 kcmil)
Fargo	Set screw	GU-500 Series
Homac	Lug	FS-95 Series with flood seal sleeve kit (8 AWG - 350 kcmil)
	Lug	FS 125 Series with flood seal sleeve kit (350 - 500 kcmil)
	Set screw	UH-R Series
Kearney	Compression	HCR
	Compression	HAR
Penn Union	Lug	DBA Series with DBTB, DBTBF and DBTH Series lug and sleeve kits
Reliable	Set screw	15903-15908, 15910 with sleeve kit (4 AWG - 350 kcmil) 15911 with sleeve kit (500 - 750 kcmil)
Utilco	Set screw	Safety Sub Splice - USPA-350SS

Non-Watertight - For Use In Above-Grade Pedestals Only

Fargo	Set screw	GUS-200 Series
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U gv  
July 1979

U gv - Stake, power pedestal  
Refer to Construction Drawing UK5

<u>Manufacturer</u>	<u>Length Inches</u>	<u>Catalog No.</u>	
		<u>For power pedestal only</u>	<u>For joint pedestal</u>
Fargo	72-78-84	UP-5300G-S Series	UP-530G-J Series
Nordic	48-60-72	PM Series	
Utility Prod.	72-78-84	DM Series	DM Series



U hb - Cable Accessories

(When ordering specify conductor size, type, whether  
copper or aluminum and insulation diameter)

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>ITT Blackburn</u>		
15 kV, used with		To obtain experience.
loadbreak connectors		
Type LB2BA bushing plug		
Type ABOC protective cap	1012 (3/15/73)	
Type JLB2BA bushing plug*		
25 kV, used with non-	1042 (5/30/74)	
loadbreak connectors		
Type LB2CA bushing plug	1110 (3/17/77)	
Type ABOCC protective cap		
<u>Burndy</u>		
15 kV, used with	1019	To obtain experience.
loadbreak connectors	6/21/73	
Type LBP82 bushing plug		
Type LBPC82-11 insulating cap		
<u>Elastimold (ESNA)</u>		
15 kV, used with		To obtain experience.
loadbreak connectors		
Style 1601-CL cable lead	921 (6/26/69)	
Style 1602A3R feedthru insert*	1171	
Style 1601-A3R bushing plug*	9/6/79	
Style 160-DR insulating cap	924 (8/7/69)	
Style 1601CIBA3R	1174 (10/18/79)	
15 kV, used with non-loadbreak		
connectors	921	
Style 1501-A1 bushing plug	6/26/69	
Style 150-DP deadend plug	842	
Style 150-DR deadend receptacle	6/2/66	
25 kV, used with loadbreak		
connectors	964	
Style 2701-A1 bushing plug*	4/8/71	
25 kV, used with non-loadbreak		
connectors	921	
Style K-1501-A1 bushing plug	6/26/69	
Style K-150-DR deadend receptacle	945 (6/11/70)	

\*Note: Asterisk indicates single or three phase. Other bushing plugs for  
use with loadbreak connectors are single phase only.

## U hb - Cable Accessories

(When ordering specify conductor size, type, whether copper or aluminum and insulation diameter)

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>General Electric</u>		
15 kV, used with loadbreak connectors		To obtain experience.
Switch module 9U02AAA001	930(10/30/69)	
Switch module 9U02AAB001*	1133(2/16/78)	
Basic connector module 9U05 Series	930(10/30/69)	
25 kV, used with loadbreak connector		
Switch module 9U02BAA001	1016(5/10/73)	
Switch module 9U02BAB001*	1133(2/16/78)	
Insulating cap 9U01BEB001	1016(5/10/73)	
<u>RTE</u>		
15 kV, used with loadbreak connectors		To obtain experience.
No. 2603711A12 protective cap	1033(1/17/74)	
No. 2604797B01 bushing well insert*	1126 11/3/77	
No. 2625194A01 two-way bushing well insert*		
No. 2604231B01 bushing well plug		
25 kV, used with loadbreak connectors		
No. 2606591A02 protective cap	1033(1/17/74)	
No. 2604982B01M bushing well insert*	1148 9/28/78	
No. 2604975B01M two-way bushing well insert*		
35 kV, used with loadbreak connectors		
No. 2606630A01 protective cap	1048(8/22/74)	

\*NOTE: Asterisk indicates single or three phase. Other bushing plugs for use with loadbreak connectors are single phase only.

U hb - Cable Accessories

(When ordering specify conductor size, type, whether  
copper or aluminum and insulation diameter)

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>Kearney</u> 25 kV, used with loadbreak connectors No. 112500 bushing plug*	966 5/6/71	To obtain experience.
<u>Reliable</u> Concentric neutral bonding clamp (Nos. 2329 & 2330)	1037 3/21/74	1. To obtain experience.  2. Only for bonding of anodes or other metals to the neutrals of <u>existing</u> cable installations.  3. Not to be used to connect neutral to grounding electrodes.
<u>Harco</u> URD cable clamp	1114 5/12/77	Same as above
<u>Electrical Specialty Prod.</u> Type GHC connector	1177 11/29/79	Same as above.

\*NOTE: Asterisk indicates single or three phase. Other bushing plugs  
for use with loadbreak connectors are single phase only.

U hp - Terminations, Elbow  
(Rated for switching on three-phase systems)

(When ordering specify conductor size, type, whether  
copper or aluminum and insulation diameter)

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>Burndy</u>		
15 kV, Loadbreak		
LBT112M (without test point)	1162(4/26/79)	To obtain experience.
LBT112MT (with test point)	1165(6/7/79)	

U hq - Terminations, Multipoint

Use with Loadbreak Connectors

(When ordering specify conductor size, type, whether  
copper or aluminum and insulation diameter)

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>Elastimold (ESNA)</u>		
15 kV		
2-way bushing, 163J2*	1068 (6/26/75)	To obtain experience.
3-way bushing, 163J3*	1068 (6/26/75)	
3-way bushing, 1601-J3	921 (6/26/69)	
4-way bushing, 163J4*	1068 (6/26/75)	
4-way bushing, 1601-J4	945 (6/11/70)	
 <u>RTE</u>		
LBC-2, 2-way bushing, 15 kV	924	To obtain experience.
2600730C04 - single phase	8/7/66	
2604883B01 - three phase		
LBC-3, 3-way bushing, 15 kV	1126	
2600730C08 - single phase	11/3/77	
2604883B02 - three phase		
LBC-4, 4-way bushing, 15 kV		
2600730C12 - single phase		
2604883B03 - three phase		
LBC-2, 2-way bushing, 25 kV	1148	
2604954B01 - three phase	9/28/78	
LBC-3, 3-way bushing, 25 kV		
2604954B02 - three phase		
LBC-4, 4-way bushing, 25 kV		
260495B03 - three phase		
 <u>General Electric</u>		
15 kV*		
2-way bushing 9U07A--2-0	1131	To obtain experience.
3-way bushing 9U07A--3-0	1/19/78	
4-way bushing 9U07A--4-0	1158 (3/1/79)	
25 kV*	1016	
2-way bushing 9U07B--2-0	5/10/73	
3-way bushing 9U07B--3-0	1158	
4-way bushing 9U07B--4-0	3/1/79	
 <u>ITT Blackburn</u>		
J2BA (2, 3, 4-way) 15 kV	1110	To obtain experience.
JJ2BA* (2, 3, 4-way) 15 kV	3/17/77	

\*NOTE: Asterisk indicates single or three phase. Other terminations for  
use with loadbreak connectors are single phase only.



## Conditional List

U hv(1)

October 1979

U hv - Cable, Underground  
(15 or 25 kV cable)TREE RETARDANT

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>Reynolds</u> Reynotree HMW	1114(5/12/77)	To obtain experience.
	1134(3/2/78)	
DFDA-6202 HMW	1151(11/16/78)	
<u>Alcoa</u> DFDA-6202 HMW	1148(9/28/78)	To obtain experience.
<u>Rome Cable</u> Treban 100 HMW	1146(8/31/78)	To obtain experience.
DFDA-6202 HMW	1155(1/18/79)	
<u>Essex</u> Treban 100 HMW	1146(8/31/78)	To obtain experience.
<u>Southwire</u> Treban 100 HMW	1146(8/31/78)	To obtain experience.
DFDA-6202 HMW	1152(12/7/78)	
<u>Triangle</u> Treban 100 HMW	1146(8/31/78)	To obtain experience.
DFDA-6202 HMW	1151(11/16/78)	
<u>Hendrix</u> DFDA-6202 HMW	1151(11/16/78)	To obtain experience.
<u>Pirelli</u> Treban 100 HMW	1152(12/7/78)	To obtain experience.
DFDA-6202 HMW	1152(12/7/78)	
<u>Alcan</u> DFDA-6202 HMW	1167(7/12/79)	To obtain experience.



U hw - Warning sign

Applicable Specifications: REA Drawings UML2-1 and UML2-2

<u>Manufacturer</u>	<u>Size (inches)</u>	<u>Danger Sign Catalog No.</u>	<u>Caution Sign Catalog No.</u>
Brady*	7 x 10	46133	46043
	10 x 14	46131	46041
Dun-Lap*	7 x 10	DL-D710	DL-C710
	10 x 14	DL-D1014	DL-C1014
	14 x 20	DL-D1420	DL-C1420
	20 x 28	DL-D2028	DL-C2028
Eastern Metal*	7 x 10	REA 12-1-710	REA 12-2-710
	10 x 14	REA 12-1-1014	REA 12-2-1014
	14 x 20	REA 12-1-1420	REA 12-2-1420
	20 x 28	REA 12-1-2028	REA 12-2-2028
Lyle*	7 x 10	UML2-1-710	UML2-2-710
	10 x 14	UML2-1-1014	UML2-2-1014
	14 x 20	UML2-1-1420	UML2-2-1420
	20 x 28	UML2-1-2028	UML2-2-2028
Truck Sign Service*	7 x 10	TSD-710	TSC-710
	10 x 14	TSD-1014	TSC-1014
	14 x 20	TSD-1420	TSC-1420
	20 x 28	TSD-2028	TSC-2028

\*Reflective signs also available.

The signs listed on this page are to be secured to equipment and transformer enclosures by means of an adhesive or by welding. Screws and rivets are not to be used.

U hx  
January 1980

U hx - Cable route marker

Manufacturer

Catalog No.

Surface Mounted

Chance

C554-0001

Fargo

GM354

Above Grade

Chance

C554-0183

Dun-Lap

DL-R45

DL-R712

Lyle

UM12-712

Truck Sign Service

BCW-712

## Conditional List

U hy(1)

July 1979

U hy - Splice, Underground, Permanent

(When ordering specify conductor size, type, whether  
copper or aluminum and insulation diameter)

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>AMP</u> "Ampact Splice" (35 kV)	1126(11/3/77)	To obtain experience.
<u>Burndy</u> Type PMS162-K (15 kV)	981(12/16/71)	To obtain experience.
<u>Elastimold (ESNA)</u> Style 1500S, straight splice, through #1/0 (15 kV)	1135 3/23/78	To obtain experience.
Style 25-S, straight splice, #2/0 through #4/0 (15 kV)	1135(3/23/78) 873 7/27/67	
Style 25-Y, Y-splice (15 kV)	921 6/26/69	
Style K-25-S, straight splice (25 kV)		
Style K-25-Y, Y-splice (25 kV)		
Style M-250-S, straight splice (35 kV)	1134 3/2/78	
<u>General Electric</u> "Uni-Matic" (15 & 25 kV) (max. cable size 2/0)	977 10/14/71	To obtain experience.
<u>ITT Blackburn</u> Type S4B (15 kV) Type S4C (25 kV)	1160 3/29/79	To obtain experience.
<u>3M</u> "Quick-Splice" 5400 Series (15 kV) (#2 AWG thru 750 kcmil) 5420 Series (25 kV)	969(6/17/71) 1024(8/30/73) 1032(12/20/73)	To obtain experience.